"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cost Summary
Henry.com
Sale 341-02-39

District: Tillamook **Date:** 7/2/01

	Conifer	Hardwood	Total
Gross Timber Sale Value	$417,751.95	$81,734.36	$499,486.31
		Project Work	($163,972.00)
		Advertised Value	$335,514.31

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Timber Description
Henry.com
Sale 341-02-39

District: Tillamook

Location: Portions of Sections 1, 2, 3, 4, 11, 12, T2N, R9W, W.M.
Tillamook County, Oregon

Date: 7/2/01 **Stand Stocking:** 40%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	13	0	95
Western Hemlock / Fir	14	0	95
Alder (Red)	14	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
2S	920	782	0	1,702
3S	540	650	0	1,190
4S	50	97	0	147
Camprun	0	0	397	397
Total	1,510	1,529	397	3,436

Comments: Pond Values Used: 2nd Quarter 2001 + Local Pond Values

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Logging Conditions
Henry.com
Sale 341-02-39

Combination#: 1 Douglas - Fir 17.68%
Western Hemlock / Fir 30.48%
Alder (Red) 100.00%

Yarding Distance: Long (1,500 ft) **Downhill Yarding** No
Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
Tree Size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
Loads/Day: 10 **Bd. Ft./Load:** 3,500
Cost/MBF: $93.79
Machines:
Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 70.79%
Western Hemlock / Fir 59.79%

Yarding Distance: Medium (800 ft) **Downhill Yarding** No
Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
Tree Size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
Loads/Day: 4 **Bd. Ft./Load:** 3,500
Cost/MBF: $234.47
Machines:
Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 3 Douglas - Fir 11.52%
Western Hemlock / Fir 9.73%

Yarding Distance: Short (400 ft) **Downhill Yarding** No
Logging System: Track Skidder **Process:** Manual Falling/Delimbing
Tree Size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
Loads/Day: 5 **Bd. Ft./Load:** 3,500
Cost/MBF: $186.60
Machines:
Log Loader (B)
Track Skidder

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Logging Costs
Henry.com
Sale 341-02-39

Date: 7/2/01

Operating Seasons: 1.6 **Profit & Risk:** 18%

Project Costs: $163,972 **Other Costs (P/R):** $18,554

Slash Disposal: $7,252 **Other Costs:** $0

Road Maintenance: $8.06

Miles of Road			
Dirt	**Rock (Contractor)**	**Rock (State)**	**Paved**
0.0	0.0	0.0	0.0

Hauling Costs

Species	$/MBF	Trips/Day	MBF/Load
Douglas - Fir	$0.00	2.0	3.5
Western Hemlock / Fir	$0.00	3.0	3.5
Alder (Red)	$0.00	3.0	3.0

Local Pond Values

Date	Species	Grade	Value
5/4/01	Alder (Red)	Camprun	$400.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Logging Costs Breakdown
Henry.com
Sale 341-02-39

Costs	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
Logging	204.08	186.94	93.79
Road Maintenance	8.48	8.48	8.48
Fire Protection	1.26	1.26	1.26
Hauling	69.16	46.11	53.79
Other (P/R appl.)	5.40	5.40	5.40
Profit & Risk	51.91	44.67	29.29
Slash Disposal	2.11	2.11	2.11
Scaling	2.00	2.00	0.00
Other	0.00	0.00	0.00
Total	344.40	296.97	194.12

Amortization	0.00	0.00	0.00
Pond Value	559.34	357.92	400.00
Stumpage	214.94	60.95	205.88
Amortized	0.00	0.00	0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary
Henry.com
Sale 341-02-39

Amortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	0.00	0.00	0.00
Value	0.00	0.00	0.00
Total	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	1,510.00	1,529.00	397.00
Value	214.94	60.95	205.88
Total	324,559.40	93,192.55	81,734.36

Gross Timber Sale Value

Recovery $499,486.31

Prepared by: David Wells Date: 7/2/01

District: Tillamook Phone: (503) 842-2545

Additional Costs

Henry.com

Cable Yarding Volume:	3117 MBF
Ground Yarding Volume:	319 MBF
Total Sale Volume:	**3436** MBF

"STEWARDSHIP IN FORESTRY"

ADDITIONAL COSTS - PROFIT & RISK TO BE ADDED					
Yarding and Loading	Cost / MBF		Volume(MBF)		
Brand and Paint	$ 1.50	x	3436	=	$5,154
Truck Assist/Tractor Swing	$ 30	x	320	=	$9,600
					$14,754
	Cost / Each		Number		
Intermediate Supports (per support)	$ 100	x	10	=	$1,000
Rock Replacement (20 cu yds/landing)	$ 280	x	10	=	$2,800
	Cost/Each				$3,800
				OTHER COSTS TOTAL	**$18,554**

ADDITIONAL COSTS - PROFIT & RISK INCLUDED

ROAD MAINTENANCE					
	$/Mile	MMBF	Miles		$/MBF
*Grading:	$500	3.44	6.0		$3.00
**Ditch Clearing and End Haul			2.7		$0.84
	$/Yd	MMBF	Miles	CuYd	$/MBF
***Maintenace rock	$14.04	3.44	6.0	50	$4.22
TOTAL ROAD MAINTENANCE COST / MBF:					**$8.06**

*Assumes grading the road once per MMBF
**Includes cost for excavating, hauling, compaction, and sediment control devices.
***Assumes 50 cy for normal maintence per MMBF per mile

PROJECT SUMMARY SHEET

Sale: **Henry.com**

CONSTRUCTION

Point	A to B	3+10 stations =	$1,721.43
		SUBTOTAL CONSTRUCTION	**$1,721.43**

IMPROVEMENT

Point	A to B	254+80 stations =	$141,490.63
Point	C to D	39+25 stations =	$17,730.65
		SUBTOTAL IMPROVEMENT	**$159,221.28**

SPECIAL PROJECTS

Vacate Point E to F		$1,797.14
	SUBTOTAL SPECIAL PROJECTS	**$1,797.14**

MOVE IN **$1,232.42**

GRAND TOTAL **$163,972.26**

SUMMARY OF CONSTRUCTION COST

Sale: Henry.com Road: A to B

Construction - 3+10 stations, 0.06 miles Improvement - 254+80 stations, 4.83 miles

CLEARING AND GRUBBING -									
Scattering (0+00 to 257+90)				5.11	acres @	$790.00	per acre =	$4,034.15	
Endhaul				0.00	acres @	$1,500.00	per acre =	$0.00	
							TOTAL CLEARING AND GRUBBING		**$4,034.15**
EXCAVATION -									
Sidecast pullback	63+20	to	65+75	453	cys. @	$1.41	per c.y. =	$639.20	
Sidecast pullback	79+15	to	80+70	207	cys. @	$1.41	per c.y. =	$291.40	
Sidecast pullback	91+90	to	101+50	853	cys. @	$1.41	per c.y. =	$1,203.20	
Widening	63+20	to	65+75	255	cys. @	$1.41	per c.y. =	$359.55	
Widening	79+15	to	80+70	155	cys. @	$1.41	per c.y. =	$218.55	
Widening	91+90	to	101+50	683	cys. @	$1.41	per c.y. =	$962.56	
Widening	244+05	to	245+15	220	cys. @	$1.41	per c.y. =	$310.20	
Spread and Compact				2929	cys. @	$0.31	per c.y. =	$908.09	
							TOTAL EXCAVATION		**$4,892.75**
END-HAULING -									
To Waste Area @ Sta. 15+50:									
Sidecast pullback	63+20	to	65+75	453	cys. @	$2.00	per c.y. =	$906.67	
Sidecast pullback	79+15	to	80+70	207	cys. @	$2.48	per c.y. =	$512.53	
Sidecast pullback	91+90	to	101+50	853	cys. @	$3.07	per c.y. =	$2,619.73	
Widening	63+20	to	65+75	255	cys. @	$2.00	per c.y. =	$510.00	
Widening	79+15	to	80+70	155	cys. @	$2.48	per c.y. =	$384.40	
Widening	91+90	to	101+50	683	cys. @	$3.07	per c.y. =	$2,095.79	
To Waste Area @ Sta. 246+15									
Widening	244+05	to	245+15	220.0	cys. @	$0.34	per c.y. =	$74.80	
							TOTAL END-HAUL		**$7,103.92**

CULVERTS - MATERIALS & INSTALLATION

Culverts						
874	LF of 18"	$13,547.00	98	LF of 24"	$1,804.18	
0	LF of 30"	$0.00	0	LF of 36"	$0.00	
		$13,547.00			$1,804.18	
Half Rounds						
330	LF of 21"	$3,917.10	0	LF of 30"	$0.00	
0	LF of 36"	$0.00	0	LF of 42"	$0.00	
		$3,917.10			$0.00	
Culvert Stakes			Culvert Markers			
66	stakes	$528.00	32	markers	$192.00	
					TOTAL CULVERTS	**$19,988.28**

SURFACING-								
Sta. 0+00 - 177+35	4,267	cy. of	2-1/2"-0"	@	$15.53	per c.y. =	$66,266.51	
Sta. 177+35 - 221+30	1,057	cy. of	2-1/2"-0"	@	$14.04	per c.y. =	$14,840.28	
Sta. 221+30 - 257+90	2,714	cy. of	Pit-Run	@	$5.84	per c.y. =	$15,849.76	
Rip Rap Haul & Placement	61	cy. of	Rip Rap	@	$8.30	per c.y. =	$506.30	
						TOTAL SURFACING		**$97,462.85**

SPECIAL PROJECTS		
Remove log culvert @ 71+35	0.5 Hours @ 110.00/Hr.	$55.00
Remove Culverts From State Land	16	$1,060.72
Construct Waste Areas (use removed culv, temp, @ 15+50 w/100' lf 9" pit-Run access)	4 Hours @ 130.31/Hr. + $670.00	$1,191.24
Grade and Shape Road (Ditched)	4.21 Miles @ $655/Mile	$2,757.55
Grade and Shape Road (Outsloped)	0.68 Miles @ $574/Mile	$390.32
Excavate rock in ditchline (191+00 to 193+40)	60 cy @ $3.75/cy	$225.00
Roll Subgrade Prior To Rocking (Sta. 0+00 - 257+90)	257.90 Sta. @ $8.25/Sta.	$2,127.68
Erosion Control: Sedimentation	31 Bio Filtration Bags @ $4.60/Bag	$142.60
Erosion Control: Grass Seed and Fertilize	6.0 Acres @ $180/Acre	$1,080.00
Erosion Control: Seeding & Mulching	0.7 Acres @ $1000/Acre	$700.00
	TOTAL SPECIAL PROJECTS	**$9,730.11**

GRAND TOTAL **$143,212.06**

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SUMMARY OF CONSTRUCTION COST

Sale: Henry.com Road: C to D -

Construction - +00 stations, 0.00 miles

Improvement - 39+25 stations, 0.74 miles

CLEARING AND GRUBBING -									
Scattering (0+00 to 257+90)				0.72	acres @	$790.00	per acre =	$569.47	
Endhaul				0.00	acres @	$1,500.00	per acre =	$0.00	
							TOTAL CLEARING AND GRUBBING		**$569.47**
EXCAVATION -									
Sidecast pullback	2+50	to	3+95	773	cys. @	$1.41	per c.y. =	$1,090.40	
Sidecast pullback	23+30	to	24+65	480	cys. @	$1.41	per c.y. =	$676.80	
Sidecast pullback	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00	
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00	
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00	
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00	
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00	
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00	
Spread and Compact				1253	cys. @	$0.31	per c.y. =	$388.53	
							TOTAL EXCAVATION		**$2,155.73**
END-HAULING -									
To Waste Area @ Sta. 9+70									
Sidecast pullback	2+50	to	3+95	773	cys. @	$0.57	per c.y. =	$440.83	
Sidecast pullback	23+30	to	24+65	480	cys. @	$0.83	per c.y. =	$399.18	
							TOTAL END-HAUL		**$840.01**

CULVERTS - MATERIALS & INSTALLATION

Culverts					
58	LF of 18"	$899.00	60	LF of 24"	$1,104.60
0	LF of 30"	$0.00	0	LF of 36"	$0.00
		$899.00			$1,104.60
Half Rounds					
0	LF of 21"	$0.00	0	LF of 30"	$0.00
0	LF of 36"	$0.00	0	LF of 42"	$0.00
		$0.00			$0.00
Culvert Stakes			Culvert Markers		
0	stakes	$0.00	4	markers	$24.00
				TOTAL CULVERTS	**$2,027.60**

SURFACING-

Sta. 0+00 - 39+25	2,160	cy. of	Pit-Run	@	$5.04	per c.y.=	$10,886.40	
						TOTAL SURFACING		**$10,886.40**

SPECIAL PROJECTS

Construct 50 lineal feet of ditchline @1+30	0.5 Hours @ 110.00/Hr.	$55.00
Construct Waste Areas	2 Hours @ 130.31/Hr.	$260.62
Grade and Shape Road (Ditched)	0.05 Miles @ $655/Mile	$32.75
Grade and Shape Road (Outsloped)	0.69 Miles @ $574/Mile	$396.06
Roll Subgrade Prior To Rocking (Sta. 0+00 - 39+25)	39.25 Sta. @ $8.25/Sta.	$323.81
Erosion Control: Sedimentation	4 Bio Filtration Bags @ $4.60/Bag	$18.40
Erosion Control: Grass Seed and Fertilize	0.86 Acres @ $180/Acre	$154.80
Erosion Control: Seeding & Mulching	0.01 Acres @ $1000/Acre	$10.00
	TOTAL SPECIAL PROJECTS	**$1,251.44**

GRAND TOTAL **$17,730.65**

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SUMMARY OF CONSTRUCTION COST

Sale: Henry.com Road: E to F

Construction - +00 stations, 0.00 miles Improvement - 6+10 stations, 0.12 miles

CLEARING AND GRUBBING -

Scattering (0+00 to 6+10)				0.59	acres @	$790.00	per acre =	$464.64
Endhaul				0.00	acres @	$1,500.00	per acre =	$0.00
							TOTAL CLEARING AND GRUBBING	**$464.64**

EXCAVATION -

Sidecast pullback	2+00	to	4+75	713	cys. @	$1.41	per c.y. =	$1,005.28
Sidecast pullback	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Sidecast pullback	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @	$1.41	per c.y. =	$0.00
Spread and Compact				713	cys. @	$0.31	per c.y. =	$221.02
							TOTAL EXCAVATION	**$1,226.30**

END-HAULING -

To Waste Area

Sidecast pullback	+00	to	+00	0	cys. @		per c.y. =	$0.00
Sidecast pullback	+00	to	+00	0	cys. @		per c.y. =	$0.00
Sidecast pullback	+00	to	+00	0	cys. @		per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @		per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @		per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @		per c.y. =	$0.00
Widening	+00	to	+00	0	cys. @		per c.y. =	$0.00
							TOTAL END-HAUL	**$0.00**

CULVERTS - MATERIALS & INSTALLATION

Culverts

0 LF of 18"	$0.00	0 LF of 24"	$0.00	
0 LF of 30"	$0.00	0 LF of 36"	$0.00	
	$0.00		$0.00	

Half Rounds

0 LF of 21"	$0.00	0 LF of 30"	$0.00
0 LF of 36"	$0.00	0 LF of 42"	$0.00
	$0.00		$0.00

Culvert Stakes: 0 stakes $0.00 Culvert Markers: 0 markers $0.00

TOTAL CULVERTS **$0.00**

SURFACING-

Sta.	0	cy. of	2-1/2"-0"	@	$0.00	per c.y.=	$0.00
Sta.	0	cy. of	Pit-Run	@	$0.00	per c.y.=	$0.00
						TOTAL SURFACING	**$0.00**

SPECIAL PROJECTS

Erosion Control: Grass Seed and Fertilize	0.59 Acres @ $180/Acre	$106.20	
		TOTAL SPECIAL PROJECTS	**$106.20**

GRAND TOTAL **$1,797.14**

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ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Moot Pt. @ 208+80	Location:	W1/2, SW1/4, Sec. 3, T2N, R9W, W.M.
Rock:	Pit-run	Road:	2714 c.y.
Swell:	1.30	Stockpile:	c.y.
Shirinkage	1.16	Total Truck Loads:	2714 c.y.
Drill Pct.:	40%	In Place Total:	2088 c.y.

Pit Development & Cleanup including Hauling overburden to Waste Area at 246+15 on A to B, spread and compact.						$3,289.00
Drill & Shoot:	$2.10	/cu.yd.	x	835 cu.yds.	=	$1,753.50
Strip Rock:	$1.50	/cu.yd.	x	1,253 cu.yds.	=	$1,879.50
Push Rock:	$0.60	/cu.yd.	x	2714 cu.yds.	=	$1,628.40
Load Dump Truck:	$0.60	/cu.yd.	x	2714 cu.yds.	=	$1,628.40
				Sub Total		$10,178.80

Move in Drill (within area)		$54.92
Move in D8 (within area)		$63.83
Move in excavator (within area)		$91.50
Move in trucks (within area)		$16.56
	Subtotal	$226.81

TOTAL PRODUCTION COSTS	$10,405.61

Base Cost $3.83 Per Cu.Yd.

Pit-Run Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds		ROCK COST
221+30 to 257+90	$1.11	$0.90	$3.83	$5.84	2,714		$15,849.76
				Total C.Y.	2,714	Sub Total	$15,849.76

TOTAL ROCKING COSTS	$15,849.76

ROCK PIT DEVELOPMENT AND CROSHING COST SUMMARY

Pit:	Henry Ridge Rd @ 34+00	Location:	W1/2, SW1/4, Sec. 3, T2N, R9W, W.M.
Rock:	Pit-run	Road:	2160 c.y.
Swell:	1.30	Stockpile:	c.y.
Shirinkage	1.16	Total Truck Loads:	2160 c.y.
Drill Pct.:	40%	In Place Total:	1662 c.y.

Pit Development & Cleanup including Hauling overburden to Waste Area at 38+00 on C to D, spread and compact.						$1,541.40
Drill & Shoot:	$2.10	/cu.yd.	x	665 cu.yds.	=	$1,396.50
Strip Rock:	$1.50	/cu.yd.	x	997 cu.yds.	=	$1,495.50
Push Rock:	$0.60	/cu.yd.	x	2160 cu.yds.	=	$1,296.00
Load Dump Truck:	$0.60	/cu.yd.	x	2160 cu.yds.	=	$1,296.00
				Sub Total		$7,025.40

Move in Drill (within area)	$34.33
Move in D8 (within area)	$63.83
Move in excavator (within area)	$91.50
Subtotal	$189.66

TOTAL PRODUCTION COSTS	$7,215.06

Base Cost $3.34 Per Cu.Yd.

Pit-Run Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds		ROCK COST
0+00 to 39+25	$1.10	$0.60	$3.34	$5.04	2,160		$10,886.40
				Total C.Y.	2,160	Sub Total	$10,886.40

TOTAL ROCKING COSTS	$10,886.40

REMOVE CULVERTS FROM STATE LANDS COST SHEET

SALE: Henry.com

Point to Point	Number of Culverts
A to B	16

TOTAL CULVERTS **16**

Load culverts @ 0.25 hrs/culvert =	4.00 hrs
Move Backhoe between culverts =	4.00 hrs
Subtotal loading time =	8.00 hrs
Driving and unloading time =	2.00 hrs
Total project time =	10.00 hrs

20.00 hours labor @ $33.07/hour =	$661.40
10.00 hours with Dump Truck @ $24.46/hour =	$244.60
10.00 hours with trailer @ $5.00/hour =	$50.00
8.00 hours with Backhoe @ $13.09/hour =	$104.72
Grand Total	**$1,060.72**

MOVE-IN COST SUMMARY

Sale: Henry.com

MILEAGE FACTORS			
Distance	Factor	Distance	Factor
0-25	0.58	55	1.07
30	0.66	60	1.15
35	0.74	65	1.23
40	0.82	70	1.31
45	0.91	75	1.40
50	1.00	80	1.48

MILEAGE FACTOR	0.74

No.	EQUIPMENT DESCRIPTION	Base Cost	Move in Cost	Within Area Move ($/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
0	Drill & Compressor	$241	$0.00	$13.73	0	0	0	$0.00	$0.00
0	Graders	$241	$0.00	$7.05	0	0	0	$0.00	$0.00
0	Loader (1.5 - 2.5 cy)	$241	$0.00	$6.83	0	0	0	$0.00	$0.00
0	Loader (3 cy +)	$387	$0.00	$8.15	0	0	0	$0.00	$0.00
0	Rollers & Compactors	$241	$0.00	$13.73	0	0	0	$0.00	$0.00
0	Excavators	$533	$0.00	$36.60	0	0	0	$0.00	$0.00
1	Excavators	$533	$309.14	$36.60	0	3.2	3.2	$117.12	$426.26
0	Large Backhoes	$533	$0.00	$21.42	0	0	0	$0.00	$0.00
0	Small backhoes	$241	$0.00	$3.52	0	0	0	$0.00	$0.00
0	Tractors (D5-D7)	$385	$0.00	$18.47	0	0	0	$0.00	$0.00
1	Tractors (D8)	$533	$394.42	$25.53	0	3.2	3.2	$81.70	$476.12
0	Dump Truck (< 10 cy)	$121	$0.00	$2.30	0	0	0	$0.00	$0.00
2	Dump Truck (10 cy +)	$144	$213.12	$2.76	0	0	0	$0.00	$213.12
1	Water Truck	$158	$116.92	$3.03	0	0	0	$0.00	$116.92

TOTAL MOVE-IN COSTS: $1,232.42

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Upper Miami Road Pit	Location:	E1/2, SE1/4, Sec. 11, T2N, R9W, W.M.		
Sale:	Henry.com		Road:		5324 c.y.
Swell:	1.40		Stockpile:		c.y.
Shirinkage	1.16		Total Truck Loads:		5324 c.y.
Drill Pct.:	100%		In Place Total:		3803 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area 1.52 miles down Miami Forest Rd., Haul overburden to Waste Area, spread and compact.						$6,213.66
Drill & Shoot:	$2.10 /cu.yd.	x	3803 cu.yds.	=		$7,986.30
Push Rock:	$0.60 /cu.yd.	x	5324 cu.yds.	=		$3,194.40
Load Crusher:	$0.60 /cu.yd.	x	5324 cu.yds.	=		$3,194.40
Crushing: 2-1/2"-0"	$2.37 /cu.yd.	x	5324 cu.yds.	=		$12,617.88
Load Dump Truck:	$0.60 /cu.yd.	x	5324 cu.yds.	=		$3,194.40
Oversize Reduction:	$4.00 /cu.yd.	x	380 cu.yds.	=		$1,520.00
Change gradation						$0.00
					Subtotal	$37,921.04

Move In and Set Up 1 Crusher		$2,364.30
Move In and set up 1 Drill and Compressor		$178.34
Move in 1 Roller and Compactor		$178.34
Move in 1 Grader		$178.34
Move in 1 D-8		$394.42
Move in 1 Loader		$286.38
Move in 1 Excavator		$98.82
Move in 3 Trucks		$639.36
Move in 1 Water Truck		$116.92
	Subtotal	$4,435.22

TOTAL PRODUCTION COSTS	$42,356.26

Base Cost= $7.96 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds		ROCK COST
A to B: St. 0+00 - 177+35 (2-1/2"-0")	$5.13	$2.44	$7.96	$15.53	4267		$66,266.51
A to B: St. 177+35 - 221+30 (2-1/2"-0")	$3.64	$2.44	$7.96	$14.04	1057		$14,840.28
A to B: St. 52+90...82+55 (Large RipRap)	$5.56	$2.74	$0.00	$8.30	61		$506.30
				Total C.Y.	5324	Sub Total	$81,613.09

TOTAL ROCKING COSTS	$81,613.09

"STEWARDSHIP IN FORESTRY"

OREGON DEPARTMENT OF FORESTRY
CRUISE REPORT

Henry.com

1. **Type of Sale**: Partial cut/Clearcut

2. **Legal Description**: Portions of Sections 1, 2, 3, 4, 11, and 12, T2N, R9W, W.M., Tillamook County, Oregon.

3. **Sale Acreage**:

	Gross	Net Thinning	Clearcut
Area I	72		69
Area II	263	190	34
Total	335	190	103

The sale boundaries were plotted and the acreage was calculated on a GIS digital ortho photograph. Deductions from total acreage have been made for areas with less than the minimum basal area required in the contract thinning specifications, inaccessibility, hardwood types, stream buffers and existing roads.

4. **Cruising Procedures**:

A. **Cruise Method**: On Areas I and II a total of 31 and 83 variable radius full point plots were measured respectively. Cruise Lines in Area I were spaced 500' apart with plots spaced every 200'. Cruise lines in Area II were established on transects to sample thinnable types within the sale area (see cruise map). In Area II plots on lines 1 to 8 were spaced 200' apart, on lines 9, 10, and 11 plots were spaced 150' apart and on lines 12 and 13 plots were spaced 120' apart. The different plot spacing in Area II was based upon meeting cruise standards for separate areas planned in the pre-sale but combined following review. Conifer trees with a DBH of at least 8 inches or greater and red alder with a volume of at least 30 board feet were recorded on all plots. In Area I all trees were graded on all plots and on Area II residual and surplus trees were designated to achieve residual basal area targets for the area. In Area II a total of 147 surplus trees were sampled throughout the sale area for merchantable height and grade. A form factor was recorded for every grade tree and form point was16 feet for conifers and 4 feet for red alder. All tree heights were measured to the nearest foot and diameters recorded to the nearest inch.

B. **Plot size**: Full Point plots with a basal area factor of 20 or 40 was used in order to sample 3 to 7 trees per plot for Area I. A basal area factor of 20 was used for Area II. The point of

C. **Grading System**: Trees were graded according to Columbia River Log Scaling and Grading Rules.

5. **Computation Procedure**: Volume for grade trees on Areas I and II were computed using the Atterbury SUPERA.C.E. 98 program. Grade trees on Area II were used to develop a volume basal area ratio (V-BAR) and residual and surplus trees were designated on each cruise plot to develop a stand table which was used to expand the volume for the sale area.

6. **Hidden Defect and Breakage**: On Areas I and II a 10% and 8% deduction was applied respectively to the volume to account for the hidden defect and breakage.

7. **Timber Description**: Area I is comprised mostly of 70 year old alder, Douglas-fir, and hemlock with scattered big leaf maple and remnant 90 year old Douglas-fir, cedar, and spruce. The older remnant trees are reserved. Area II is a mixture of stands; one, almost pure Douglas-fir about 35-40 years old, another a mixture of hemlock, Douglas-fir and alder about 50-55 years old, and a third a mostly hemlock stand about 45 years old. Areas I and II were burned in the 1933 Tillamook Fire and Area II was within the 1945 fire. Area II was salvage logged in the mid 1950's. The 35-40 year old Douglas-fir was planted and the remainder of the sale area was naturally regenerated. Portions of Area II were sprayed in the 1970's to control alder, leaving the alder now about 20 to 30' tall with multiple tops. The understory consists of salmonberry, sword fern and vine maple. Swiss needle cast infection is severe with less than 2.5 years of needle retention in the Douglas-fir. The current average and expected stand characteristics for Area II, partial cut, is shown in the attached stand table.

8. **Cruiser Names/Dates**: Area I: Joe Travers, Rich Wilfong and Dave Wells, February 1999; Area II: Barbara Moore, Joe Travers, Cris Woodward, and Dave Wells, January 2001.

9. **Revenue Distribution**:
FDF: 100%
Tax Code: 56-1
Deed Numbers: 15, 194
Rehabilitation Obligation: 60%

10. **Attachments**:
Volume Summary
Stand Table
Cruise Map
Logging Plan

"STEWARDSHIP IN FORESTRY"

Henry.com

Volume Summary

Area I						
			69 acres			
SPECIES	Gross MBF Per Acre	Net MBF Per Acre	Gross MBF	Net MBF	D & B	Net Vol MBF
Douglas-fir	4.5	4.3	311	297	10%	267
Hemlock	7.6	7.5	524	518	10%	466
Alder	6.4	6.4	442	442	10%	397
TOTAL	18.5	18.2	1277	1256		1130

Area II						
			224 acres			
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	52	116	6.0	1351	8%	1243
Hemlock	43	120	5.2	1156	8%	1063
TOTAL			11.2	2507		2306

TOTAL SALE VOLUME			
SPECIES	MBF		Net Vol. (MBF)
Douglas-fir	1648		1510
Hemlock	1673		1529
Alder	442		397
TOTAL	3763		3436

Henry.com - Area II

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	10.3	2.8	4.1	0.0	6.2	1.4	0.0	0.0	0.0	1.4
9"	16.9	4.9	8.2	0.0	8.7	2.7	0.0	0.0	0.0	2.2
10"	16.8	4.4	9.7	0.0	7.1	3.1	0.0	0.4	0.0	0.9
11"	15.7	5.9	10.2	0.0	5.5	4.4	0.0	0.4	0.0	1.1
12"	15.4	7.6	6.8	0.0	8.6	5.2	0.0	0.3	0.0	2.1
13"	12.1	8.1	7.1	0.0	5.0	4.4	0.0	0.8	0.0	2.9
14"	7.2	9.7	4.7	0.0	2.5	5.2	0.0	0.0	0.0	4.5
15"	5.8	7.9	3.1	0.0	2.7	4.9	0.0	0.8	0.0	2.2
16"	4.7	6.0	2.8	0.0	1.9	4.1	0.0	0.0	0.0	1.9
17"	3.7	5.3	2.3	0.0	1.4	3.7	0.0	0.5	0.0	1.1
18"	3.1	2.2	2.3	0.0	0.8	1.8	0.0	0.1	0.0	0.3
19"	1.7	1.7	1.2	0.0	0.5	1.7	0.0	0.0	0.0	0.0
20"	0.7	3.3	0.0	1.3	0.7	1.9	0.0	0.0	0.0	0.1
21"	0.7	2.0	0.0	0.8	0.7	1.2	0.0	0.0	0.0	0.0
22"	0.4	2.3	0.0	0.6	0.3	1.6	0.1	0.1	0.0	0.0
24"	0.2	2.0	0.0	0.8	0.2	1.2	0.0	0.0	0.0	0.0
26"	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.0	0.0	0.0
28"	0.0	0.8	0.0	0.2	0.0	0.5	0.0	0.1	0.0	0.0
30"	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
32"	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
34"	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
36"	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Trees/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	195	67	103	4	21
Residual	80	4	51	4	21
Take	116	63	53	0	0

Basal Area/acre

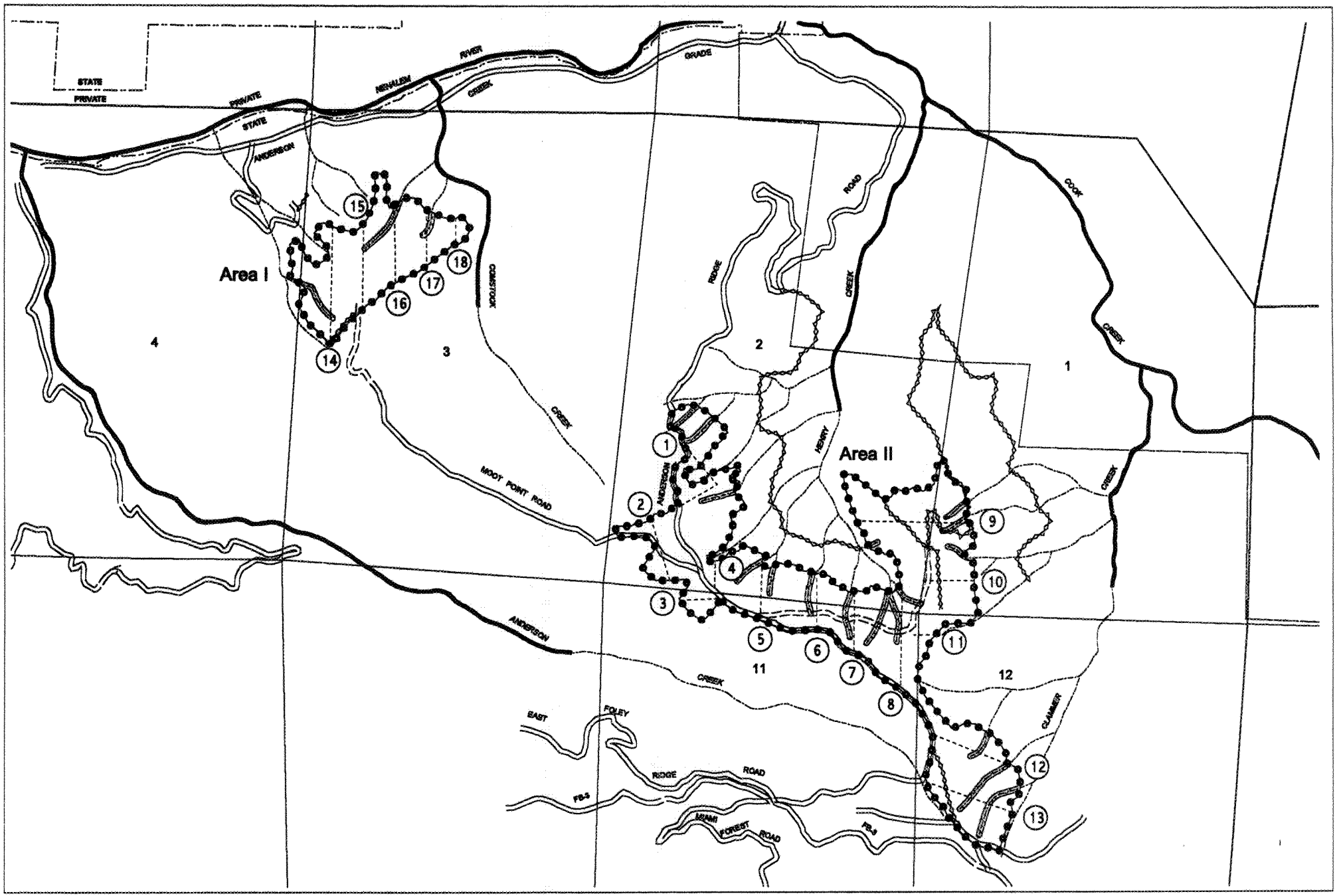
	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	200	64	112	4	20
Residual	105	12	69	4	20
Take	95	52	43	0	0

Quadradic Mean Diameter

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	13.7	13.2	14.1	13.5	13.2
Residual	15.5	23.5	15.8	13.5	13.2
Take	12.3	12.3	12.2	0.0	0.0

Stand Density Index (%)

	Doug-fir	Hemlock	Sprce/Cdr
Current	54	40	46
Residual	27	20	23



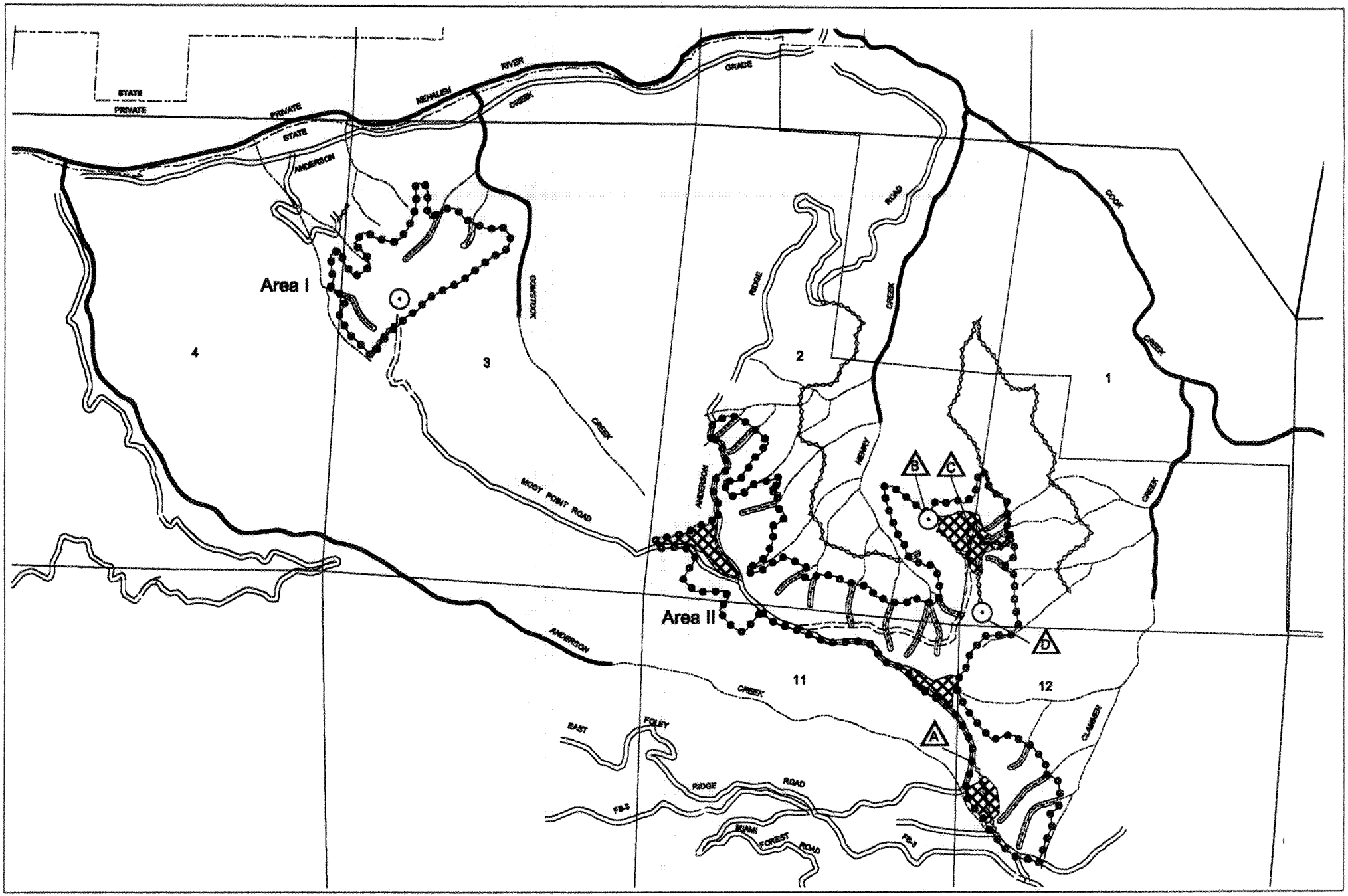
Timber sale boundary
Cruise line
Stream buffer

Type F Streams
Type N Streams
Abandoned road
Surfaced Road (Const. Required)
Surfaced existing road
Unsurfaced existing road

CRUISE MAP
of Timber Sale Contract No. 341-02-39
Henry.Com
Portions of sections 1, 2, 3, 4, 11, 12, T2N, R9W, W.M.
Tillamook County, Oregon

0 1000 2000 3000 Feet

N



Swing road
Stream buffer
Cable Yarding
Tractor Yarding
Cable Landing

Timber sale boundary
Type F Streams
Type N Streams
Abandoned road
Surfaced Road (Const. Required)
Surfaced existing road
Unsurfaced existing road

LOGGING PLAN
of Timber Sale Contract No. 341-02-39
Henry.Com
Portions of sections 1, 2, 3, 4, 11, 12, T2N, R9W, W.M.
Tillamook County, Oregon

0 1000 2000 3000 Feet

N

OREGON DEPARTMENT OF FORESTRY
WRITTEN PLAN

SALE NAME: Henry.com

PROTECTED RESOURCES: Type F Stream: Comstock Creek.

LOCATION: Portions of Sections 1, 2, 3, 4, 11, and 12, T2N, R9W, W.M., Tillamook County, Oregon.

ACTIVITIES: Logging cables strung across Type F streams for deflection; Cable and ground yarding; and road improvement (culvert installation, road widening and rocking).

Riparian Management Area (RMA): The area within 100 feet horizontal distance from the high water mark on each side of the protected Type F streams. **High Risk Sites:** Active landslides and slumps; slopes steeper than 80%; headwalls or draws steeper than 70%.

PROTECTION MEASURES:

YARDING and FELLING:

- All trees in the RMA outside of yarding corridors are reserved from cutting.
- Adjacent trees will be felled away from or parallel to the RMA.
- If trees or logs fall or slide into a stream channel they will not be limbed, bucked, or removed without approval from ODF.
- When cable yarding lines are strung across RMA's they will be at least 150 feet apart and pulled out prior to rigging the next yarding road.
- Cable yarding will be used on high risk sites.
- A self-clamping carriage capable of passing over intermediate supports and being positioned and repositioned for each turn of logs without lowering the skyline will be used to control the direction of yarding.
- Intermediate supports will be used to provide lift.
- Logs will have at least one end suspended when yarded.
- Soil gouging will be incidental and limited to a depth of 1 foot (measured vertically).
- Type N streams shown on the timber sale Exhibit "A" will have a 40 foot no harvest buffer to protect water quality and high risk sites that may be in these areas.
- Ground yarding equipment will not operate within 35 feet of Type N streams and 50 feet of Type F streams
- Ground yarding will not be allowed on high risk sites.
- Active landslides and slumps discovered within the harvest areas will be reviewed by the State to determine protective measures for these areas. Further consultation with the Area geotechnical specialist and/or removal of the sites from the harvest area may be required.

PROJECT WORK:

- In stream project work activity within 100 feet of the protected streams will be allowed between July 1 and September 15.
- Sediment traps will be used as needed to protect water quality.
- Fill material will be placed and compacted in 8 inch lifts. Fill slopes will be constructed at a 1½ :1 fill width to height ratio.
- Rip rap placement will be accomplished by placing rock by machine rather than end dumping.
- Waste material will be end-hauled to stable locations marked in the field.
- Roads will not be constructed on high risk sites.

PREPARED BY: David Wells
Forester, North Unit
June 11, 2001

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